Please amend the claims as follows:

1-52. (Canceled)

53. (Currently Amended) A pharmaceutical composition for modulating an immune response in a subject to a target antigen of a pathogenic organism, the composition comprising a pharmaceutically acceptable carrier or diluent and primate antigen-presenting cells or their precursors, which have not been subjected to activating conditions and which have been incubated or processed under conditions that result in an increase of less than about 50% in cell number as compared to the number of cells at the commencement of the incubation or processing, wherein the antigen-presenting cells or their precursors have been removed from a subject and have been contacted with an antigen corresponding to the target antigen for a time and under conditions sufficient to present a processed or modified form of the antigen for presentation to the subject's immune system, wherein the antigen-presenting cells or their precursors have been contacted with the antigen for less than about 8 hours, and wherein the antigen-presenting cells are other than natural killer cells or natural killer T cells.

54. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are contacted with the antigen for less than about 6 hours.

55. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are selected from whole blood, fresh blood, or fractions thereof.

56. (Previously Presented) A composition according to claim 55, wherein fractions are selected from peripheral blood mononuclear cells, buffy coat fractions of whole blood, packed red cells, irradiated blood, dendritic cells, monocytes, macrophages, neutrophils and lymphocytes.

57. (Previously Presented) A composition according to claim 53, wherein the antigen corresponding to the target antigen is a peptide.

58. (Withdrawn) A composition according to claim 53, wherein the antigen is selected from a proteinaceous molecule or a nucleic acid molecule.

59. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells have been contacted with two or more antigens.

60. (Previously Presented) A composition according to claim 59, wherein the antigens are in a form selected from overlapping peptides and non-overlapping peptides.

61. (Previously Presented) A composition according to claim 53, wherein the cells have been contacted with at least one set of peptides, wherein individual peptides of a respective set comprise different portions of an amino acid sequence corresponding to a single polypeptide of interest and display partial sequence identity or similarity to at least one other peptide of the same set of peptides.

62. (Previously Presented) A composition according to claim 61, wherein at least 2 sets of peptides are employed, and wherein peptide sequences in each set are derived from a distinct polypeptide of interest.

63. (Previously Presented) A composition according to claim 61, wherein the partial sequence identity or similarity is contained at one or both ends of an individual peptide.

64. (Withdrawn) A composition according to claim 61, wherein the length of the peptides is selected to enhance the production of a cytolytic T lymphocyte response.

65. (Previously Presented) A composition according to claim 61, wherein the length of the peptides is selected to enhance the production of a T helper lymphocyte response.

66. (Previously Presented) A composition according to claim 61, wherein the peptide sequences are derived from at least about 30% of the sequence corresponding to the polypeptide of interest.

67. (Previously Presented) A composition according to claim 61, wherein the polypeptide of interest is an antigen selected from a protein antigen, an antigen expressed by cancer cells, a particulate antigen, an alloantigen, an autoantigen or an allergen, or an immune complex.

68. (Canceled).

69. (Withdrawn, Currently Amended) A process for producing a pharmaceutical composition comprising antigen-presenting cells for modulating an immune response in a subject to a target antigen of a pathogenic organism, the process comprising contacting a population of primate antigen-presenting cells or their precursors with an antigen corresponding to the target antigen for a time and under conditions sufficient to present a processed or modified form of the antigen for presentation to the subject's immune system, wherein the antigen-presenting cells have not been subjected to activating conditions and have been incubated or processed under conditions that result in an increase of less than about 50% in cell number as compared to the number of cells at the commencement of the incubation or processing, wherein the antigen-presenting cells or their precursors have been removed from a subject, wherein the antigen-presenting cells or their precursors are contacted with the antigen for less than about 8 hours, ~~and~~ wherein the antigen-presenting cells are other than natural killer cells or natural killer T cells, and suspending the antigen-presenting cells or their precursors in a pharmaceutically acceptable carrier or diluent.

70. (Withdrawn, Previously Presented) A process according to claim 69, wherein the population is a heterogeneous population selected from whole blood, fresh blood, or fractions thereof selected from peripheral blood mononuclear cells, buff coat fractions of whole blood, packed red cells, irradiated blood, dendritic cells, monocytes, macrophages, neutrophils and lymphocytes.

71. (Withdrawn, Previously Presented) A method for modulating an immune response to a target antigen, comprising administering to a patient in need of such treatment a composition according to claim 53 or a population of antigen-presenting cells produced according to the process of claim 69.

72. (Withdrawn, Currently Amended) A method for treatment and/or prophylaxis of a disease or condition associated with the presence of a target antigen of a pathogenic organism, comprising administering to a patient in need of such treatment or prophylaxis an effective amount of primate antigen-presenting cells or their precursors, which have not been subjected to activating conditions and which have been incubated or processed under conditions that result in an increase of less than about 50% in cell number as compared to the number of cells at the commencement of the incubation or processing, wherein the antigen-presenting cells or their precursors have been removed from a subject and have been contacted with an antigen that corresponds to the target antigen for a time and under conditions sufficient to present a processed or modified form of the antigen for presentation to the subject's immune system, wherein the antigen-presenting cells or their precursors have been contacted with the antigen for less than about 8 hours, ~~and~~ wherein the antigen-presenting cells are other than natural killer cells or natural killer T cells, and wherein the antigen-presenting cells or their precursors are administered in a pharmaceutically acceptable carrier or diluent.

73. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are contacted with the antigen for less than about 4 hours.

74. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are contacted with the antigen for less than about 2 hours.

75. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are contacted with the antigen for less than about 1 hour.

76. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are incubated or processed under conditions that result in an increase of less than about 20% in cell number as compared to the number of cells at the commencement of the incubation or processing.

77. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are incubated or processed under conditions that result in an increase of less than about 10% in cell number as compared to the number of cells at the commencement of the incubation or processing.

78. (Previously Presented) A composition according to claim 53, wherein the antigen-presenting cells or their precursors are incubated or processed under conditions that result in an increase of less than about 5% in cell number as compared to the number of cells at the commencement of the incubation or processing.

79. (Previously Presented) A composition according to claim 61, wherein the length of the peptides is 12 to 20 amino acids.

80. (Previously Presented) A composition according to claim 53, wherein the pathogenic organism is a virus.

81. (Previously Presented) A composition according to claim 53, wherein the pathogenic organism is a retrovirus.

82. (Previously Presented) A composition according to claim 81, wherein the retrovirus is an immunodeficiency virus.

83. (Previously Presented) A composition according to claim 81, wherein the retrovirus is selected from human immunodeficiency virus and simian

immunodeficiency virus.

84. (Previously Presented) A composition according to claim 53, wherein the pathogenic organism is a hepatitis virus.

85. (Previously Presented) A composition according to claim 84, wherein the hepatitis virus is hepatitis C virus.

86. (Currently Amended) A pharmaceutical composition for modulating an immune response in a subject to a target antigen of a pathogenic organism, the composition comprising a pharmaceutically acceptable carrier or diluent and primate antigen-presenting cells or their precursors, which have not been subjected to activating conditions and which have been incubated or processed under conditions that result in an increase of less than about 50% in cell number as compared to the number of cells at the commencement of the incubation or processing, wherein the antigen-presenting cells or their precursors have been removed from a subject and have been contacted with an antigen corresponding to the target antigen for a time and under conditions sufficient to present a processed or modified form of the antigen for presentation to the subject's immune system, wherein the antigen-presenting cells or their precursors have been contacted with the antigen for less than about 8 hours, wherein the antigen-presenting cells are other than natural killer cells or natural killer T cells, and wherein the composition excludes interleukin-12.

87. (Currently Amended) A vaccine composition comprising a pharmaceutically acceptable carrier or diluent and primate antigen-presenting cells or their precursors, which have not been subjected to activating conditions and which have been incubated or processed under conditions that result in an increase of less than about 50% in cell number as compared to the number of cells at the commencement of the incubation or processing, wherein the antigen-presenting cells or their precursors have been removed from a subject and have been contacted with an antigen corresponding to the target antigen for a time and under conditions sufficient to present a processed or modified form of an antigen that corresponds to a target antigen of a pathogenic organism for presentation to a subject's immune

system, wherein the antigen-presenting cells or their precursors have been contacted with the antigen for less than about 8 hours, wherein the antigen-presenting cells are other than natural killer cells or natural killer T cells, and wherein the composition excludes interleukin-12.

88. (Currently Amended) A pharmaceutical composition for modulating an immune response in a subject to a target antigen, the composition comprising a pharmaceutically acceptable carrier or diluent and antigen-presenting cells or their precursors, which have not been subjected to activating conditions and which have been incubated or processed under conditions that result in an increase of less than about 50% in cell number as compared to the number of cells at the commencement of the incubation or processing, wherein the antigen-presenting cells or their precursors have been removed from a subject and have been contacted with an antigen corresponding to the target antigen for a time and under conditions sufficient to present a processed or modified form of the antigen for presentation to the subject's immune system, wherein the antigen-presenting cells or their precursors have been contacted with the antigen for less than about 8 hours and are selected from the group consisting of whole blood, fresh blood and irradiated blood.